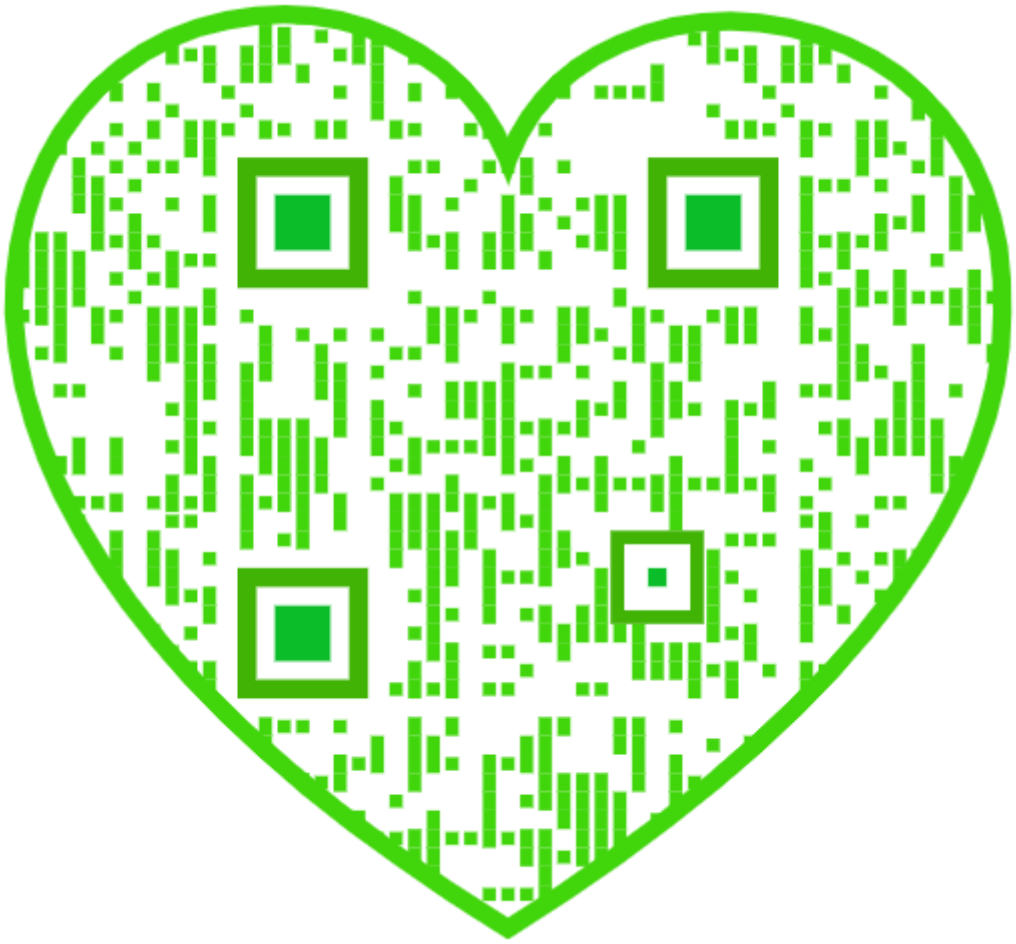
Master in Artificial Intelligence

Problem Definition II



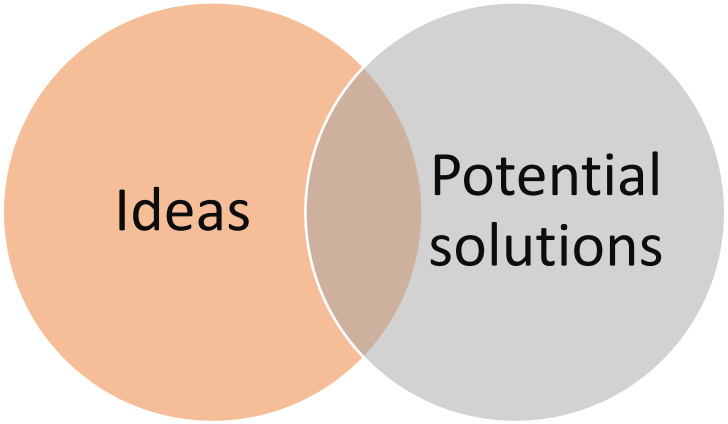
Purpose

The purpose of the section is to help you learn how to define problems to become a Successful Artificial Intelligence (AI) Engineer

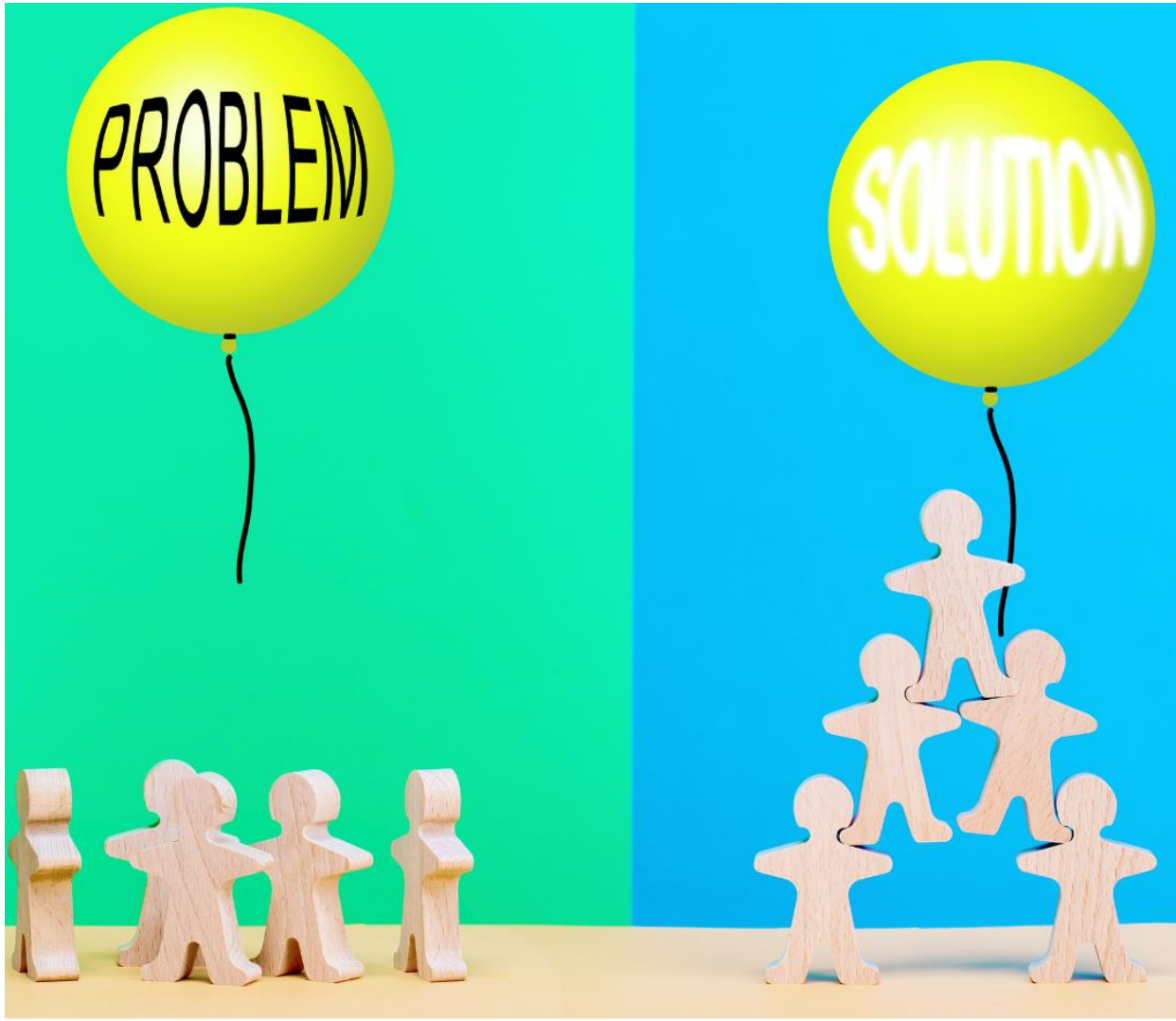
At the end of this lecture, you will learn the following

- **How to understand stakeholders' needs and define problems that can be addressed using artificial intelligence and machine learning techniques**

Brainstorm Solutions



Brainstorm Solutions



Prioritize Problems

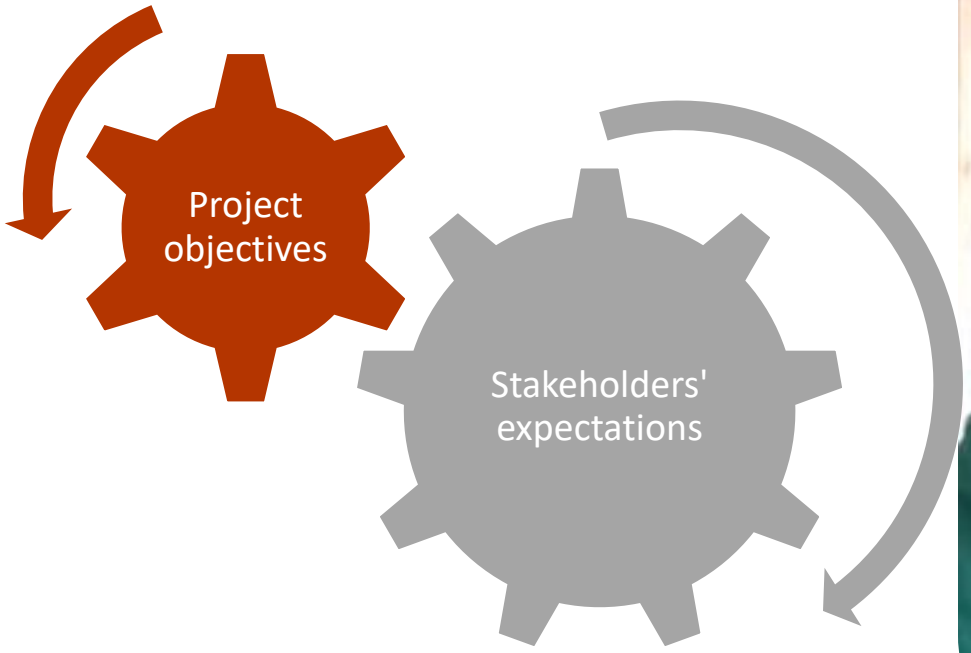
Problem/ Opportunity	#1	#2	#3
Impact	Low	High	High
Feasibility	High	High	Low
Alignment with Organizational Goals	Low	High	High
Overall Priority	Low	High	Medium

Define Success Metrics

Work with stakeholders

Define clear and measurable success metrics

Use to evaluate the effectiveness of AI solutions



Prototype and Validate

Proof of concept vs. prototype

Proof of concept (POC)	Prototype
Theoretical demonstration of a product/process/concept.	Very early draft of a product/process/concept.
Determine whether an idea can be turned into a reality.	Meant to turn a POC idea into a slimmed-down version of the end product that can be tested and evaluated for usability, functionality and design.
Test whether the idea is viable and explore the idea's potential to be developed or built.	Not expected to have all the features and functions of a market-ready product, nor is it expected to contain all the usability or aesthetics of a final product.
Verify that the idea will function as envisioned.	Gives stakeholders, project managers, executives and potential investors a draft of what the final product might be.
Identify potential technical and logistical issues that might interfere with success.	Allows makers to determine how best to develop the product when it moves into full production for a final, market-ready item.
Address how the proposed product or service will support organizational goals, objectives or other business requirements as a secondary goal.	
Not intended to explore market demand for the idea, nor is it intended to determine the best production process.	

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Prototype and Validate

Develop

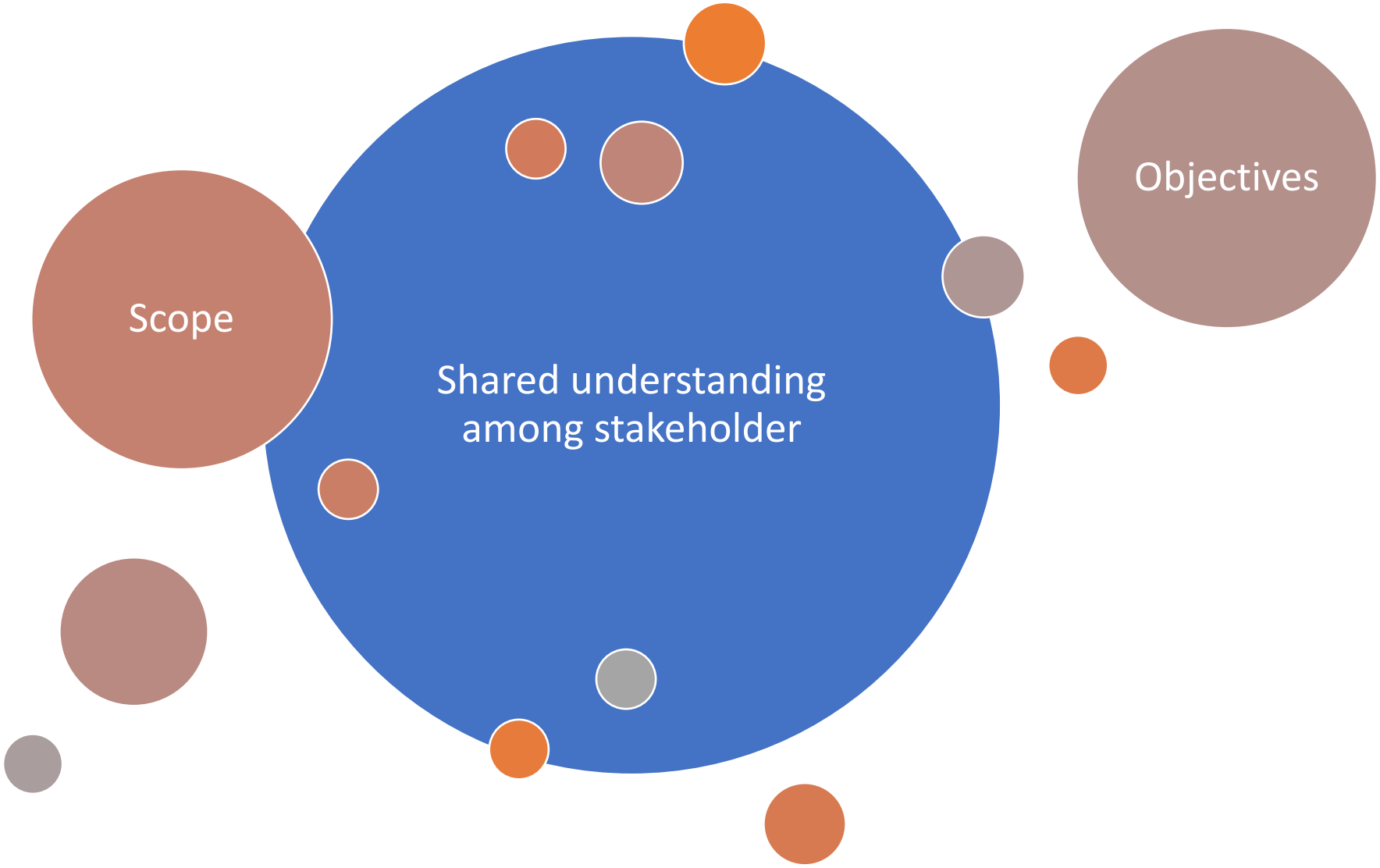
Solicit Feedback

Iterate

Document Requirements

- Stakeholder requirements
- Business objectives
- Technical specifications

Document Requirements



Communicate Effectively

Inform

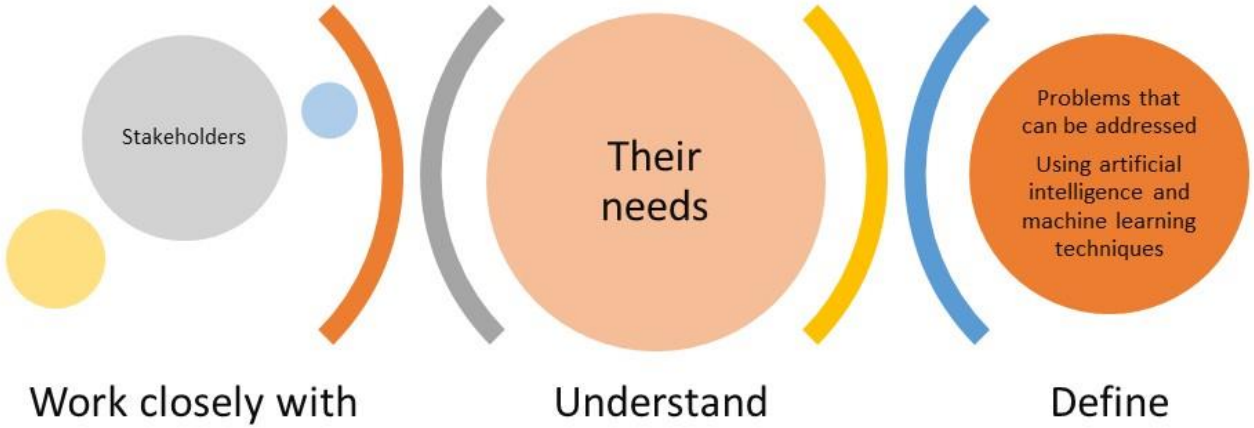
- Progress
- Challenges
- Decision points

Solicit

- Their input
- At key milestones

How to understand stakeholders' needs and define problems

Problem Definition

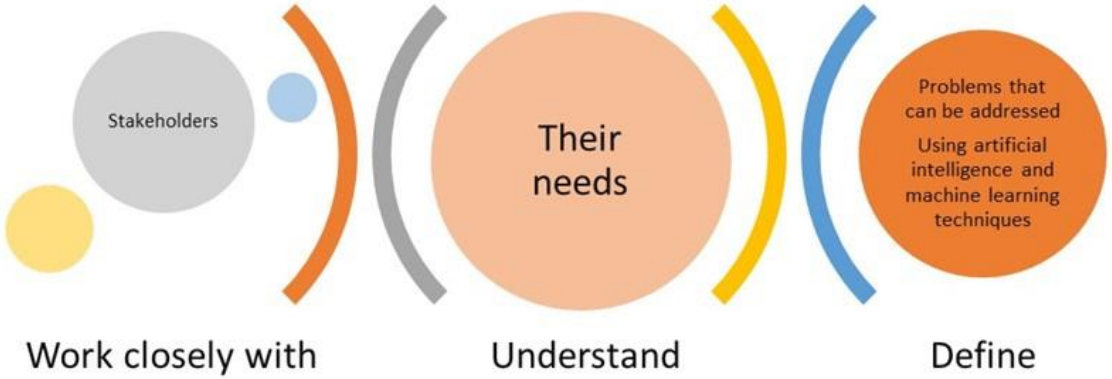


What is next?

An example of understanding stakeholders' needs and define problems

Problem Definition

Example: Improving Patient Diagnostics in Radiology



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